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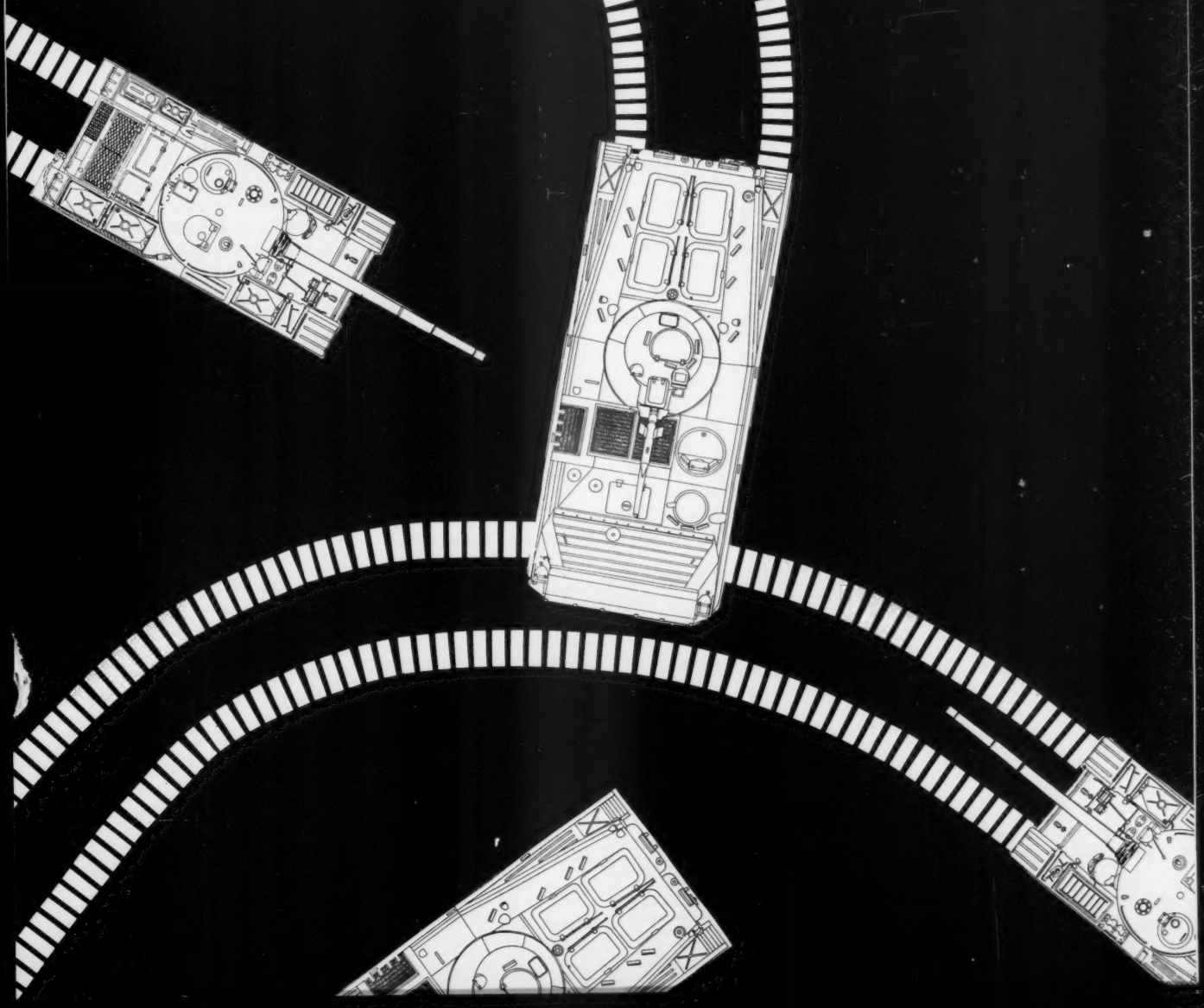
WHY WE MUST IMPROVE OUR General Purpose Forces



U.S. General Purpose Forces:

A Need for Modernization

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Chairman, Joint Chiefs of Staff

Strategic nuclear forces alone will not guarantee peace.

Versatile general forces, combat-capable and rapidly deployable, are essential if the United States and its allies are to prevent encroachment upon their important worldwide interests. The causes of war have been reduced, but they have not been eliminated. The world still competes for scarce resources.

Political and social unrest besiege a number of the developing nations of the world, and mature nations are not exempt. The adventurous and the ambitious have not abandoned the hope of opportunistic undertakings. Just as the United States tries to make war unprofitable by developing and maintaining a stable strategic situation, it also strives to make lesser levels of conflict unattractive for adversaries.

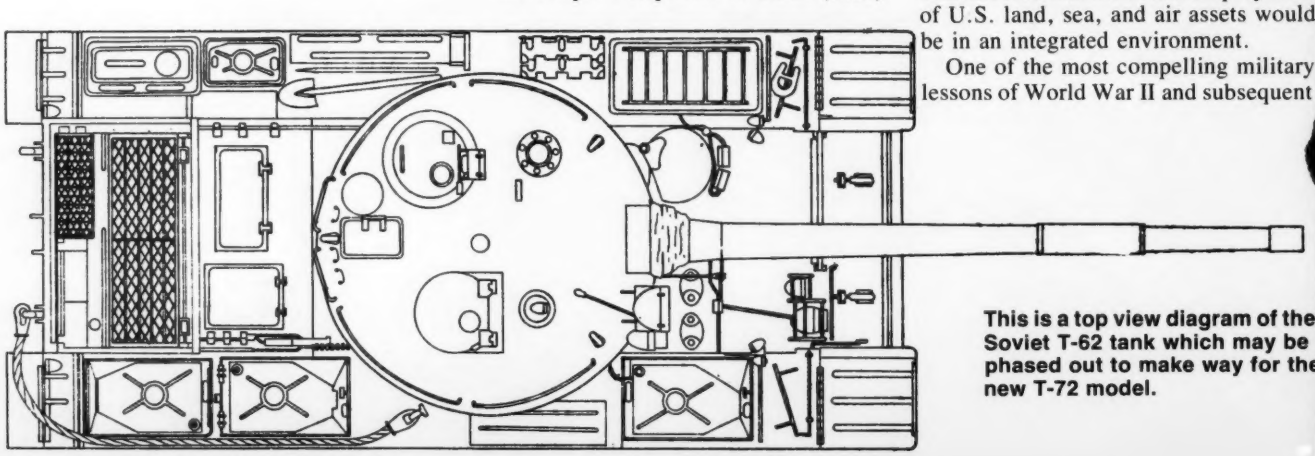
This country's general purpose forces support and protect its military, diplomatic, and economic interests. They demonstrate this Nation's resolve to honor worldwide commitments and permit the United States to deter conflict and, by the controlled application of power, meet any attack if deterrence fails. The Soviet Union is steadily developing and deploying new general purpose weapons. In the past few years, its attempts at updating its general purpose forces have gained momentum.

The Warsaw Pact appears committed to maintaining a demonstrated numerical edge over the North Atlantic Treaty Organization (NATO) in combat divisions, tanks, artillery, and combat aircraft while they modernize these forces to close the qualitative gap which has favored NATO. The Soviets use this numerical edge to balance the greater NATO theater tactical nuclear capability. The Soviets view conflict in Europe in the larger context of the theater and strategic resources available to the Soviet Union and the Warsaw Pact on the one hand, and the West and the People's Republic of China (PRC) on the other. Rational analysis would lead them to curb their ambitions in light of the greater resources available to the West and the prospect of a two-front war. But in retrospect, war does not have a rational beginning and the Defense Department must be aware that the Soviet Union is developing forces to win the war on the most advantageous terms.

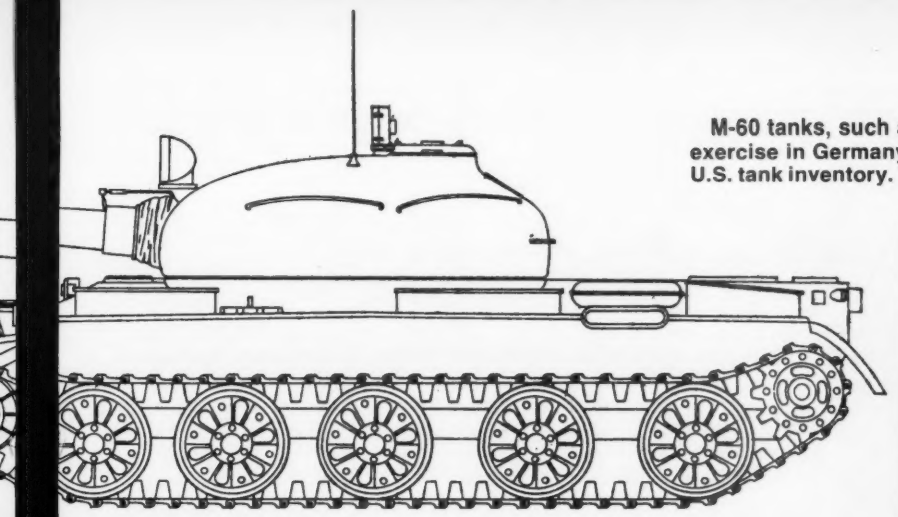
The purpose here is to present a comparison of the principal elements of the general purpose forces of the United States and its potential adversaries.

The following description of the individual land, sea, and air force postures is divided according to functional areas for ease in understanding. However, it must be remembered that the actual employment of U.S. land, sea, and air assets would be in an integrated environment.

One of the most compelling military lessons of World War II and subsequent



This is a top view diagram of the Soviet T-62 tank which may be phased out to make way for the new T-72 model.



M-60 tanks, such as these (below) taking part in a NATO exercise in Germany, now constitute more than half of the U.S. tank inventory. The M-60A1 is comparable to the Soviet T-62 tank, shown in diagram, left.

hostilities has been the need for combat forces of the military Services to function in an integrated manner. The ability of U.S. ground, sea, and air elements to interrelate and interact closely, both in the planning and in the execution of military operations, is absolutely essential in terms of combat effectiveness, efficiency, and economy of force in terms of men and machines. The present joint planning system and unified command arrangements have evolved from this fundamental imperative. While U.S. land, sea, and air forces are properly generated and supported by the individual Services, DoD's major combatant forces composed therefrom are employed jointly and commanded through the unified structure.

Soviet and Warsaw Pact

Prior to the 1960s, the Soviet Union had a very limited nuclear capability, and emphasized large ground forces. With the growth of the Soviet nuclear arsenal in the early 1960s, and under a strategic nuclear unbrella, the numbers of men and divisions were cut, nuclear missiles and rockets were deployed, and divisions were streamlined for the expected short, intense nuclear confrontation.

In the 1970s, the Soviet ground forces have maintained the growth of their tactical nuclear capabilities, while improving their conventional warfare capabilities. Ground force modernization in the 1970s has resulted in improved capabilities for both nuclear and conventional war through increases in the number and quality of artillery, tanks, armored personnel carriers, anti-aircraft weaponry and surface-to-air missiles.

In the last several years the modernization of ground forces has manifested itself in a variety of ways.

The Soviets recently began production of a new medium tank—the T-72. Self-propelled 122 mm and 152 mm artillery units were identified in Soviet forces last year.

During the last three years, the Soviet Union has increased production of its Amphibious Armored Infantry Combat Vehicle (BMP), a versatile fighting vehicle with excellent mobility and fire power.

One of the most important Soviet improvement trends has been toward greater mobility of air defense weapons. This permits ground forces to operate on the modern battlefield under a surface-to-air missile (SAM) umbrella. During the early 1970s, SAMs such as the SA-7 and SA-4, first introduced in substantial numbers in the late 1960s, continued to be produced. At the same time, several new SAM systems appeared: the SA-6, the SA-9, and, most recently, the SA-8. Together with the quad-23 mm self-propelled AA gun ZSU-23-4, these weapons form a

mutually supportive and highly mobile air defense system. Increases in the effective range and mobility of these missile systems and in the total number of AA weapons of all types deployed reduce the vulnerability of ground forces on much larger areas of the battlefield.

The Soviet Union's conventional capabilities will continue to be improved as organizational changes developed over the past few years are progressively implemented. These changes will increase the organic concentrated fire power and mobility of existing organizations.

Improvement in Soviet general purpose forces has been accompanied by an apparent revision in doctrine which in Soviet exercises provides for a period of conventional warfare prior to the escalation to nuclear war.

Nevertheless, at the same time, the Soviet tactical nuclear capabilities continue to grow. The SCUD and SCALEBOARD short-range missiles continue to be added to the forces, as do new models of free rockets. These actions are leading to more versatile and balanced forces.

Warsaw Pact Ground Forces

The ground forces of the Soviet Union are organized into 168 divisions and supporting forces. In addition to this purely Soviet force, the other Warsaw Pact nations maintain about 55 divisions which must be taken into account. About 90 divisions throughout eastern Europe and the Soviet Union are immediately available for combat; almost all of them are opposite NATO. For the longer term, about 130 more divisions could be deployed. Given either a surprise attack or sufficient mobilization time, this total force of about 220 divisions, including more than 40 in the eastern Soviet Union and Mongolia, constitutes an undeniable and substantial military threat.

The major strengths of Warsaw Pact ground forces stem from the Soviet

Union's modernization developments in the past few years as well as from the increased production of more tanks and artillery, including the self-propelled artillery. All have improved mobile firepower. The variety of anti-aircraft guns and surface-to-air missiles currently in the ground forces can provide multi-weapon air defense coverage at all altitudes likely to be used by NATO tactical aircraft. Most of these systems are mobile and capable of accompanying other rapidly maneuvering combat formations. Nevertheless, some equipment shortcomings in the Pact's ground forces remain, despite the large quantities of a variety of modern weapons which have been introduced in recent years.

On balance, however, the Pact ground forces are now maturing as a modern sophisticated force comparable to that of Western armies.

The Joint Chiefs of Staff have been concerned, for several years, over the risks inherent in NATO's ability to meet a Warsaw Pact attack. The substantial qualitative and quantitative improvements in the forces of the Soviet Union have increased appreciably the "no room for error" risk which was associated with the prior 13⅓-division U.S. Army. In the past, DoD counted on the superior quality of Western weapons, equipment, and technology to offset the decided advantage the other side enjoyed in quantity. That time is now past. The strength, speed of mobilization, mobility, and sustaining power of the Warsaw Pact is estimated to have increased significantly.

U.S. Efforts Vs. Pact

In order to meet this challenge, the United States continues to work on its effort to raise the active Army division force to 16 divisions by fiscal year (FY) 1977, while attaining an end strength of 790,000 men and women. This will accomplish a number of things. It will improve appreciably the U.S. strategic posture, raise the Soviet perception of U.S. capability, and raise the nuclear threshold. This enhancement of visible deterrent power is being accomplished by converting headquarters and support spaces into combat spaces. Drastic cuts in headquarters support and administrative elements have been made in order to make these 16 active divisions possible. The new divisions, consisting of two brigades plus the division base, will be stationed at Fort Ord, California; Fort Hunter and Fort Stewart, Georgia; and Fort Polk, Louisiana. The third brigade for each of these divisions will be provided by the

The Soviet tactical nuclear capabilities continue to grow as SCUD (left) and SCALEBOARD short-range missiles are added to the forces.

Reserve Component in accordance with the Affiliation Program. This program provides for the assignment of Reserve brigades and separate maneuver battalions to round out Continental United States (CONUS) active Army divisions to normal structure. In some cases, the program will give divisions combat units above normal structure. The battalions needed to round out the active divisions will receive the same priority for equipment and other support as the active divisions. Other affiliated units will also have very high priority for resources. In time of war, the Reserve Component unit would be deployed and fight as an organic part of the division.

PRC Ground Forces

The People's Republic of China Army (PRCA), with an estimated strength of 3.5 million, comprises more than 80 per cent of the active armed forces. The PRCA has 210 divisions composed of 135 main force combat divisions and 75 regional forces divisions. Of the 135 main force combat divisions, 121 are infantry divisions. The army is deployed defensively, with the largest concentrations of the force disposed to defend the northern and northeastern industrial and political centers of Peking and Shenyang.

Following the 1969 border clashes with the Soviets, the PRC moved additional units to the northern military regions bordering the Soviet Union and Mongolia. When this redeployment was completed in 1970–71, nearly half of the Chinese army was deployed in defensive positions in these northern regions. The composition of these northern area Chinese forces further emphasized the PRC concern with the Soviet threat.

The PRCA consists of main and local forces. The main forces are organized into tactical maneuver elements composed of combat units with normal combat and service support elements. The Chinese ground forces are organized to provide the maximum fighting forces with minimal organic service support troops.

Although the PRCA disposition is primarily defensive and poses no direct threat to the United States, it has the capability of affecting U.S. interests in Asia.

Major Weapons Systems

Organization and force deployment serve as one element for analyzing a force balance. To give meaning to the organizations, the weapons available to the forces must be examined. The chart, "Major Weapons and Equipment—Ground Forces," provides a comparison of U.S., Soviet, and PRC inventories of selected major ground force weapons and equipment.

Estimates of Soviet and PRC ground force weapons inventories are based to a large extent on DoD's evaluation of their force requirements, division structure, and tables of organization and equipment (TOE). Therefore, accurate comparisons are difficult. The usual problems of definition and classification provide an additional factor of difficulty to this analysis.

The United States has never attempted to match the Soviet Union in either quantities of ground force personnel or materiel, relying instead on technology. There are strong indications that the technological gap between the United States and the Soviet Union is being closed. U.S. technology is still, by and large, superior, but the new Soviet trend to add sophistication to its already massive quantitative superiority makes it imperative that the United States continue to modernize ground force equipment and pursue those potentially rewarding new areas of technology which may, in the future, prove to be the decisive factor.

Tank Force Comparison

The Soviet tank force consists of approximately 40,000 medium and heavy tanks backed up by other medium and heavy tanks in storage.

The newest Soviet tank is the T-72. Improvements over the T-62 are evident in mobility and armor protection. Series production of the T-72 continues. In addition, T-62s are being phased out of production. These aspects in Soviet armor have serious implications for U.S. defense planning.

The PRC is continuing to produce the Type 59 tank which is a copy of the Soviet T-54A. DoD estimates that the great majority of these tanks are being used to bring existing units to full or even a slightly expanded TOE strength and to replace older model tanks and assault guns.

Although approximately equal to the PRC inventory, the U.S. medium tank inventory is less than one-quarter of the estimate of the total Soviet inventory.

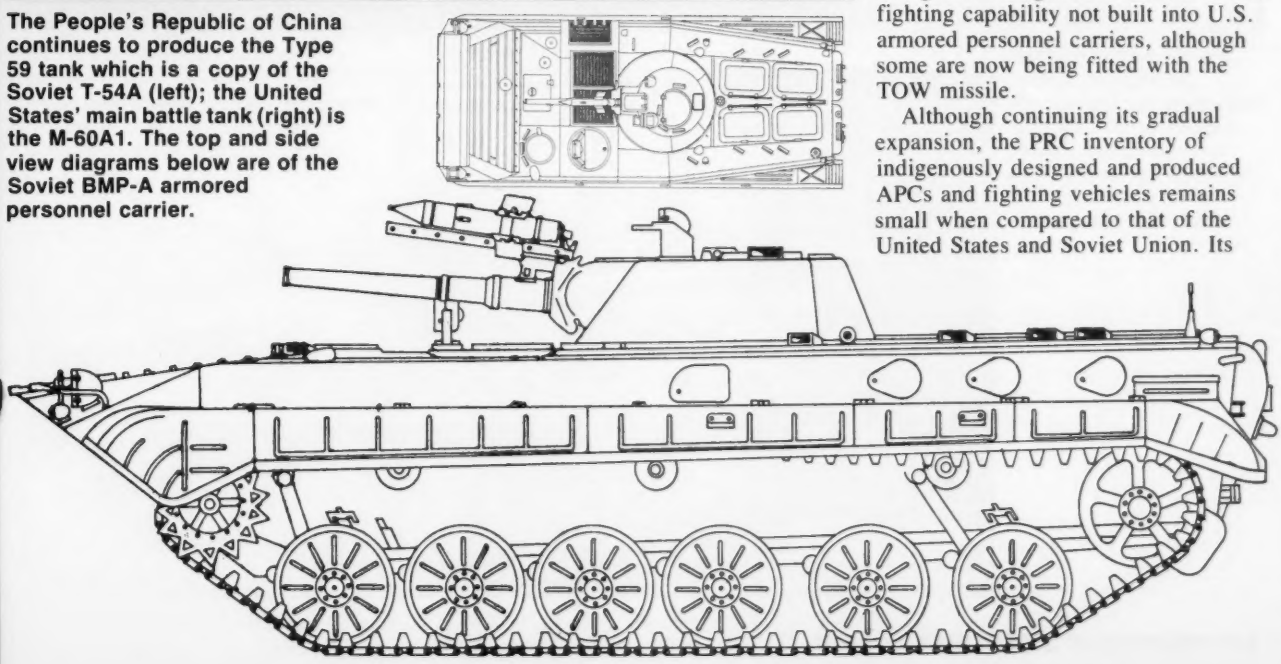
The United States' main battle tank, the M-60A1, is comparable to the Soviet T-62. The M-60 series now constitutes over half of the U.S. inventory, and delivery to the Marine Corps was initiated in September 1974. Over the next two years, the M-60 series should replace most of the M-48s in both active and Reserve Marine Corps units. The M-60 series will be in the inventory until at least 1990. The Army has undertaken a program of product improvement of the M-60A1 tank designed to increase reliability, durability, firepower, and mobility. The product-improved M-60A3 tank completed operational test II in February 1975, and incorporates a new track, a laser-rangefinder and full-solution computer, passive night vision, a more reliable engine, and a stabilized gun system. Additionally, in order to alleviate the critical short term shortage of 105 mm gun tanks, the Army is converting its 90 mm gun M-48 series tanks to a 105 mm gun configuration, the M-48A5. This tank, which is considered generally equal to the basic M-60 tank, will be issued to

MAJOR WEAPONS AND EQUIPMENT—GROUND FORCES (Jan. 1976)

	US	USSR	PRC
Tanks	9,000	42,000	8–9,000
APC & Fighting Veh.	22,000	35–40,000	3–4,000
Artillery	6,000	15–20,000	15–16,000
Heavy Mortars	3,000	5–10,000	5–6,000
Helicopters	9,000	2,500	3–4,000*

* Assigned to PRC Air Force

The People's Republic of China continues to produce the Type 59 tank which is a copy of the Soviet T-54A (left); the United States' main battle tank (right) is the M-60A1. The top and side view diagrams below are of the Soviet BMP-A armored personnel carrier.



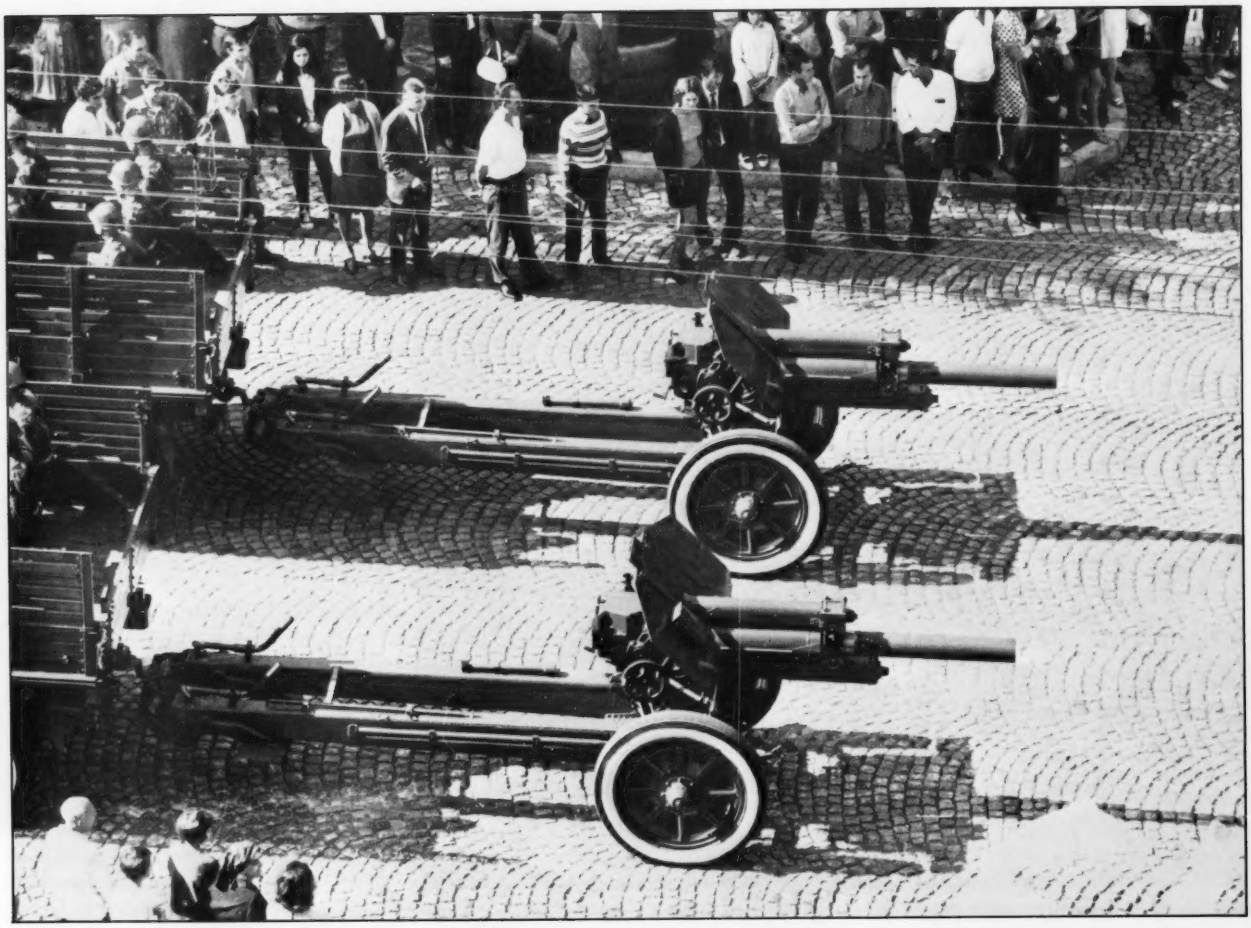
the Army Reserve Component armor units.

For the 1980s, the Army is developing a completely new main battle tank, the XM-1, designed to provide a significant improvement in offensive ground combat capability by improving armor ballistic protection, cross-country agility, and firepower. This tank is now 31 months into a 34-month competitive validation program. As part of the continuing efforts to achieve greater standardization of equipment within NATO, a comparative evaluation of the M-1 with a modified Leopard II tank developed by the Federal Republic of Germany will be conducted. Limited production is programmed to begin in late 1979 if unforeseen difficulties do not develop, and a production decision is made.

Armored Fighting Vehicles

The newer Soviet fighting vehicles are the airborne amphibious armored combat vehicle—the BMD—and the amphibious armored infantry combat vehicle—the BMP. These vehicles continue to enter the Soviet inventory in increasing numbers and will make significant contributions to the Soviet fighting capability. Both are capable of firing anti-tank guided missiles—a tank fighting capability not built into U.S. armored personnel carriers, although some are now being fitted with the TOW missile.

Although continuing its gradual expansion, the PRC inventory of indigenously designed and produced APCs and fighting vehicles remains small when compared to that of the United States and Soviet Union. Its



Soviet self-propelled artillery systems, including the 122 mm SP gun at right, mark a change in the Soviet reliance on towed field artillery, such as the M-30, 122 mm pieces above.

gradual expansion reinforces other signals indicating development of a more modern mechanized force in the future.

The U.S. Army has designed the Mechanized Infantry Combat Vehicle (MICV) to provide increased mobility, protection, and firepower to the mechanized infantry man while he operates as a member of the U.S. combined arms team. DoD anticipates that this vehicle, when it enters the force, will constitute a decided improvement in the United States' mobile combat capability.

Artillery

Both the Soviet Union and the PRC, with their much larger ground forces, have more than twice the number of artillery pieces and heavy mortars as the United States. The PRC apparently is pursuing a program of military standardization having adopted a basic "family" of towed pieces.

New U.S. ammunition developments underway are designed to close the range gap between the United States, Soviet Union, and PRC. Also, the Army's laser-guided, cannon-launched guided projectile has entered the engineering development phase. This artillery projectile, which is designed to hit a moving or fixed target with a single shot, is revolutionary artillery development.

The new Soviet self-propelled (SP) artillery systems now being fielded mark a change in the long-standing Soviet reliance on towed field artillery. These weapons, designated 122 mm SP Gun M-1974 and 152 mm SP Gun M-1973, mark the culmination of development programs that began in the early 1960s.

Surface-to-Air Missiles

Both the U.S. and Soviet ground forces face an air threat in the 1980s consisting of large numbers of versatile, well-equipped aircraft, which will be fast, maneuverable, possessing electronic devices to neutralize defense systems, and which will deliver ordnance with extreme accuracy. In order to meet this threat, the Soviet Union has deployed the tracked vehicle mounted SA-4 and SA-6 surface-to-air missile, and the new self-contained SA-8 and SA-9 surface-to-air missile system. The latter SAMs are mounted on lightly armored wheeled amphibious vehicles. These new SAM systems provide an excellent defense against air threats at all altitudes.

The recent Middle East War made it clear that a land army can be given the capability to strengthen its defenses considerably against air attack by employment of sophisticated mobile, integrated surface-to-air missile systems. Defense officials believe it is of particular importance that the United States move ahead with a more mobile, capable, and responsive family of battlefield air defense weapons.

The NIKE HERCULES and basic HAWK surface-to-air systems reflect

A STINGER missile (above) knocks the tail off a high-powered jet drone. The STINGER is being developed to replace the REDEYE missile, and will engage both incoming and outgoing aircraft with advanced Infrared Countermeasure Systems (IRCM).

15- to 20-year old technology. They are relatively costly to operate and maintain. The basic HAWK is presently being replaced by the IMPROVED HAWK system. Both systems, the IMPROVED HAWK and the NIKE HERCULES, are programmed to be replaced during the 1980s by SAM-D, currently in an austere development. The SAM-D has the capability of engaging targets simultaneously and maintaining its effectiveness in the face of enemy countermeasures. It requires less maintenance and fewer operating personnel than present systems. The proof-of-principle test program has been completed, successfully demonstrating the track-via-missile (TVM) guidance principle. SAM-D is expected to re-enter full-scale engineering development in early FY 77. The SAM-D and other air defense programs are being designed to keep pace with maneuver units and to counter effectively air attacks in a heavy electronic countermeasure (ECM) environment.

To complement SAM-D in the forward battle area, the ROLAND II SAM program is in the development cycle to provide an all-weather, day/night, low-altitude capability. ROLAND II will replace CHAPARRAL. The man-portable SAM system, STINGER, is being developed to replace REDEYE and will engage both incoming and outgoing aircraft with advanced Infrared Countermeasure Systems (IRCM). A new Low Altitude Forward Area Air Defense (LAFAAD) gun is under construction to replace the VULCAN Air Defense Gun. LAFAAD will be a radar-aimed medium-caliber air defense gun system mounted on a track vehicle. Together with SAM-D, all these battlefield air defense systems discussed here will be capable of providing effective air defense for Army units in the field. Increased SAM capability by the United States will be particularly important when the sophisticated Soviet tactical air threat is fully implemented.

Anti-Tank Weapons

The Soviet Union deploys SNAPPER, SAGGER, and SWATTER antitank missiles, which generally are ground/vehicle mounted.

However, the U.S. Army and Marine Corps forces are continuing to improve their anti-tank capabilities. TOW is a tube-launched, optically-tracked, wire-guided, anti-tank missile. Its principal mission is the destruction of enemy tanks, armored vehicles, and field fortifications. It has an effective range of 3,000 meters and replaces the 106 mm recoilless rifle in the infantry battalion.

DRAGON is a man-portable, anti-tank weapon system using a command to line-of-sight guided missile, which is capable of defeating the heaviest known armored vehicle. The DRAGON weapon will be organic to and will provide medium-range (60 to 1,000 meters) anti-tank/assault fire for all infantry companies. It will replace the 90 mm recoilless rifle. The first unit so equipped became operational in Europe in March 1975.

The PRC has a large inventory of crew-served weapons, particularly a native-designed 82 mm recoilless gun—and thousands of rocket-propelled, anti-tank, grenade-type weapons. The most recent Middle East conflict demonstrated the deadly effectiveness of such weapons, particularly in the hands of dedicated and well-trained soldiers.

Although basic development is complete for both the TOW and DRAGON, the Defense Department continues to develop additional capabilities for these weapons systems. Of particular importance is the development of a thermal-imaging night sight for both systems, which will provide them with a 24-hour operational capability.

Leaving a cloud of smoke behind it, a DRAGON anti-tank missile heads downrange. This shoulder-fired weapon is the U.S. Army's man-portable, anti-tank weapon system which uses a command to line-of-sight guided missile that is capable of defeating the heaviest known armored vehicle.

This YUH-60A UTTAS helicopter (Utility Tactical Transport System) will be the U.S. Army's first squad-carrying assault-lift helicopter and will replace the UH-1 in the assault helicopter, air cavalry, and aeromedical evacuation units.

Helicopters

There are dramatic improvements in the Soviet helicopter force, both quantitative and qualitative. In order to maintain the current technological superiority in the helicopter arena, the United States is continuing development of both the AAH—the Advanced Attack Helicopter—and UTTAS—the Utility Tactical Transport Aircraft System. The AAH will be an integrated helicopter weapons system which will provide a day/night/adverse weather anti-tank capability not presently in the inventory. The AAH will enhance significantly the overall anti-tank capability, thereby providing a means of countering the growing armor threat of the Warsaw Pact nations. This helicopter will have a crew of two and be armed with the TOW anti-tank missile system and a 30 mm cannon. It will be armored against the 12.7 mm projectile and will include other features to enhance survivability in the mid-intensity battlefield. Until the AAH is available, the Army will field the AH-1S to provide additional anti-armor capability. The AH-1S is the standard AH-1G (COBRA), with an improved engine, transmission, and drive-train, together with the TOW subsystem. The UTTAS will be the Army's first squad-carrying assault-lift helicopter and will replace the UH-1 in the assault helicopter, air cavalry, and aeromedical evacuation units. Goals include improved reliability, maintainability, survivability, and performance.

Summary—Ground Forces

The Warsaw Pact continues to maintain a ground forces numerical advantage in Europe. Its current emphasis on improving the quality of its ground forces is disturbing. The Joint Chiefs of Staff have been concerned for several years over the risks inherent in NATO's conventional capability to meet a Warsaw Pact attack. The programs for the modernization and improvement of U.S. ground forces are absolutely necessary to retain the qualitative superiority upon which we have relied with pride for so many years and which make less likely the early use of tactical nuclear weapons.

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